



3749 *zfu*

**In The United States Patent and Trademark Office**

Application Number: 10/079,990  
Applicant(s): Chi Lam Wong  
Filing Date: 02/19/2002  
Title: Torch Lighter for Cigar

Examiner: Carl D Price  
Group Art Unit: 3749

Date: January 05, 2005

**RESPONSE**

Honorable Commissioner for Patents,  
P.O. Box 1450,  
Alexandria, VA 22313-1450

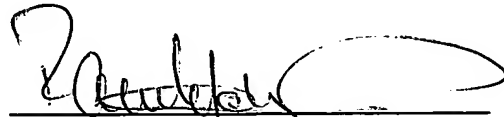
Sir:

In response to the Advisory Action mailed 12/10/2004, the applicant respectfully submits as follows.

1. In response to the Office Action dated 06/02/2004, an Amendment B was filed on November 02, 2004 with a two-month extension of time.
2. In addition, on December 02, 2004, a Request for Continued Examination was filed with a three-month extension of time pursuant to 37C.F.R.1.136 and a check in an amount of US\$966.00 to pay the corresponding extension fee and RCE filing fee, wherein a copy of the originally filed Amendment B was enclosed. Duplicates of the RCE, Amendment B and Petitions for Extension of Time are enclosed herewith.
3. Since a Request for Continued Examination (RCE) was timely filed in compliance with 37CFR1.114 in this application with an indication of amendment filed after the final Office Action had been previously submitted and a copy of the Amendment B filed on 11/02/2004 was enclosed, the response filed on November 02, 2004 is already a proper reply to a final rejection although it fails to place this application in condition for allowance.

4. Please accept the RCE filed on December 02, 2004 and issue another office action in response with the RCE filed on December 02, 2004 and the Amendment B filed on 11/02/2004.

Respectfully submitted,




Raymond Y. Chan  
Reg. Nr.: 37,484  
108 N. Ynez Ave.  
Suite 128  
Monterey Park, CA 91754  
Tel.: 1-626-571-9812  
Fax.: 1-626-571-9813

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Date: January 05, 2005

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Person Signing: Raymond Y. Chan



USP1787A-CLW

THE FOLLOWING ARE RECEIVED TODAY:

RE.: EXTENSION OF TIME/ REQUEST FOR CONTINUED EXAMINATION (RCE)

APPLICATION NUMBER: 10/079,990

FILING DATE: 02/19/2002

TITLE: Torch Lighter for Cigar

APPLICANT: Chi Lam Wong

EXAMINER: Price, Carl D

GROUP ART UNIT: 3743

A COPY OF AMENDMENT B: Page(s): 22

a copy of Extension of Time and ~~return~~ postcard.

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3671

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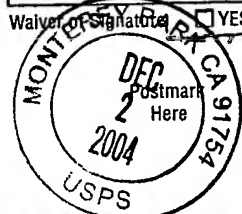
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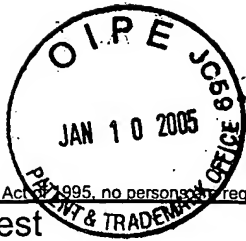
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USP1787A-CLW



PTO/SB/30 (09-04)

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**Request  
for  
Continued Examination (RCE)  
Transmittal**Address to:  
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P.O. Box 1450  
Alexandria, VA 22313-1450

Application Number	10/079,990
Filing Date	February 19, 2002
First Named Inventor	Chi Lam Wong
Art Unit	3749
Examiner Name	Carl D Price
Attorney Docket Number	USP1787A-CLW

**This is a Request for Continued Examination (RCE) under 37 CFR 1.114 of the above-identified application.**

Request for Continued Examination (RCE) practice under 37 CFR 1.114 does not apply to any utility or plant application filed prior to June 8, 1995, or to any design application. See Instruction Sheet for RCEs (not to be submitted to the USPTO) on page 2.

1. **Submission required under 37 CFR 1.114** Note: If the RCE is proper, any previously filed unentered amendments and amendments enclosed with the RCE will be entered in the order in which they were filed unless applicant instructs otherwise. If applicant does not wish to have any previously filed unentered amendment(s) entered, applicant must request non-entry of such amendment(s).

- a. ☒ Previously submitted. If a final Office action is outstanding, any amendments filed after the final Office action may be considered as a submission even if this box is not checked.

- i. ☐ Consider the arguments in the Appeal Brief or Reply Brief previously filed on \_\_\_\_\_
- ii. ☐ Other \_\_\_\_\_

- b. ☒ Enclosed

- i. ☐ Amendment/Reply

- iii. ☐ Information Disclosure Statement (IDS)

- ii. ☐ Affidavit(s)/ Declaration(s)

- iv. ☒ Other Copy of Amendment B filed on 11/02/2004

2. **Miscellaneous**

- a. ☐ Suspension of action on the above-identified application is requested under 37 CFR 1.103(c) for a period of \_\_\_\_\_ months. (Period of suspension shall not exceed 3 months; Fee under 37 CFR 1.17(f) required)
- b. ☐ Other \_\_\_\_\_

3. **Fees** The RCE fee under 37 CFR 1.17(e) is required by 37 CFR 1.114 when the RCE is filed.

- a. ☒ The Director is hereby authorized to charge the following fees, or credit any overpayments, to Deposit Account No. 502111. I have enclosed a duplicate copy of this sheet.

- i. ☒ RCE fee required under 37 CFR 1.17(e)

- ii. ☒ Extension of time fee (37 CFR 1.136 and 1.17)

- iii. ☐ Other \_\_\_\_\_

- b. ☒ Check in the amount of \$ 966.00 enclosed

- c. ☐ Payment by credit card (Form PTO-2038 enclosed)

**WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.****SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT REQUIRED**

Signature		Date	December 02, 2004
Name (Print/Type)	Raymond Y. Chan	Registration No.	37,484

**CERTIFICATE OF MAILING OR TRANSMISSION**

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Mail Stop RCE, Commissioner for Patents, P. O. Box 1450, Alexandria, VA 22313-1450 or facsimile transmitted to the U.S. Patent and Trademark Office on the date shown below.

Signature		Date	December 02, 2004
Name (Print/Type)	Raymond Y. Chan	Date	December 02, 2004

This collection of information is required by 37 CFR 1.114. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Mail Stop RCE, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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In The United States Patent and Trademark Office

Application Number: 10/079,990  
Applicants: Chi Lam Wong  
Filing Date: 02/19/2002  
Title: Torch Lighter for Cigar

Examiner: Price, Carl D  
Group Art Unit: 3743

PETITION FOR EXTENSION OF TIME UNDER 37 C.F.R. 1.136

Honorable Commissioner for Patents,  
P.O. Box 1450, Alexandria, VA 22313-1450

Sir.:

It is respectfully requested that an Extension of Time for the period indicated below be granted in accordance with the provisions of 37 C.F.R. 1.136 to take the action required in the application identified in caption, as reflected by the papers submitted.

<input type="checkbox"/> First Month	\$110.00 (\$55.00)*
<input type="checkbox"/> Second Month	\$430.00 (\$215.00)*
<input checked="" type="checkbox"/> Third Month	\$980.00 (\$490.00)*
<input type="checkbox"/> Fourth Month	\$1,530.00 (\$765.00)*
<input type="checkbox"/> Fifth Month	\$2,080.00 (\$1040.00)
*Small Entity	TOTAL: \$ 490.00

☒ A check in the amount of the above total fee is attached.  
This amount is believed to be correct; however, the Commissioner is hereby authorized to charge any deficiency or credit any overpayment to Deposit Account No. 502111. A duplicate copy of this letter is attached.

☐ Please charge any fee which may be required to Deposit Account No. \_\_\_\_\_. A duplicate copy of this letter is attached.

Respectfully submitted,

December 02, 2004

(Date)

By :

Raymond Y. Chan

Reg. No. : 37,484

108 North Ynez Avenue

Suite 128

Monterey Park, CA 91754

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Date of Deposit

Raymond Y. Chan

Signature of Registered Representative



USP1787A-CLW

THE FOLLOWING ARE RECEIVED TODAY:

RE.: AMENDMENT B  
APPLICATION NUMBER: 10/079,990  
FILING DATE: 02/19/2002  
TITLE: Torch Lighter for Cigar  
APPLICANT: Chi Lam WONG  
EXAMINER: Carl D Price  
GROUP ART UNIT: 3749  
AMENDMENT B: Page(s): 22  
*Extension of Time: 1 month.*  
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DAVID & RAYMOND PATENT FIRM, LLP

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THE FOLLOWING ARE RECEIVED TODAY:

RE.: AMENDMENT B  
APPLICATION NUMBER: 10/079,990  
FILING DATE: 02/19/2002  
TITLE: Torch Lighter for Cigar  
APPLICANT: Chi Lam WONG  
EXAMINER: Carl D Price  
GROUP ART UNIT: 3749  
AMENDMENT B: Page(s): 22  
*Extension of Time: 1 month.*  
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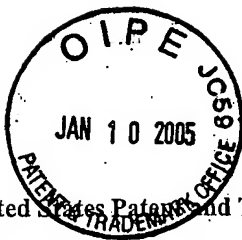
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In The United States Patent and Trademark Office

Application Number: 10/079,990  
Applicant(s): Chi Lam Wong  
Filing Date: 02/19/2002  
Title: Torch Lighter for Cigar

Examiner: Carl D Price  
Group Art Unit: 3749

PETITION FOR EXTENSION OF TIME UNDER 37 C.F.R. 1.136

Honorable Commissioner for Patents,  
P.O. Box 1450, Alexandria, VA 22313-1450

Sir.:

It is respectfully requested that an Extension of Time for the period indicated below be granted in accordance with the provisions of 37 C.F.R. 1.136 to take the action required in the application identified in caption, as reflected by the papers submitted.


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<input type="checkbox"/> Fourth Month	\$1,530.00 (\$765.00)*
<input type="checkbox"/> Fifth Month	\$2,080.00 (\$1040.00)
*Small Entity	TOTAL: \$ 215.00

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- ☐ Please charge any fee which may be required to Deposit Account No. \_\_\_\_\_. A duplicate copy of this letter is attached.

Respectfully submitted,

11/02/2004  
(Date)

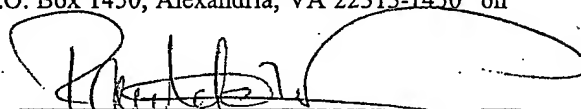
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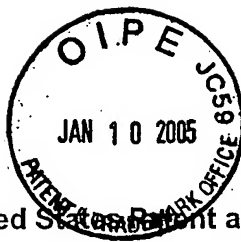
  
Raymond Y. Chan  
Reg. No. : 37,484  
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Suite 128  
Monterey Park, CA 91754

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November 02, 2004  
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Signature of Registered Representative



In The United States Patent and Trademark Office

Application Number: 10/079,990  
Applicant(s): Chi Lam Wong  
Filing Date: 02/19/2002  
Title: Torch Lighter for Cigar

Examiner: Carl D Price  
Group Art Unit: 3749

Date: November 01, 2004

**AMENDMENT B**

Honorable Commissioner for Patents,  
P.O. Box 1450,  
Alexandria, VA 22313-1450

Sir:

In response to the Office Action mailed 06/02/2004, kindly amend the above application as follows.



**CLAIM AMENDMENTS**

Claim 1 (currently amended): A torch lighter, comprising:

a casing having a liquefied fuel storage and a fuel valve which is actuated by a fuel lever pivotally mounted in said casing for releasing fuel therefrom;

an ignition unit generating sparks directed from a piezoelectric tip thereof toward an ignition chamber; and

a fuel nozzle assembly provided for vaporizing said fuel released from said fuel valve to a high-pressured gaseous fuel to emit to said ignition chamber, wherein said fuel nozzle assembly comprises:

a nozzle body having a root opening, an emitting opening, and at least an air inlet provided thereon, wherein said air inlet is positioned adjacent to said root opening to define an elongated mixing chamber axially extended between said air inlet to said emitting opening, wherein said mix chamber has a diameter sized between 1mm to 2.5 mm and a flow of air is capable of inletting into said mixing chamber through said air inlet;

a torch nozzle, which is coaxially connected between said root opening of said nozzle body and said fuel valve, having a micro nozzle pore having a diameter of 0.05mm to 0.12mm and comprising a mesh filter provided below said nozzle pore for preventing residual particles of said fuel from entering said nozzle body, wherein said fuel released from said fuel valve is vaporized into a strong, pressurized gaseous fuel jetting into said mix chamber, wherein said jetting gaseous fuel and said air flowing through mix chamber are mixed to form a mixture gas at said emitting opening of said nozzle body;

a combustion housing which is supported around said emitting opening of said nozzle body and defines said ignition chamber therein; and

a torch head, which is provided at said emitting opening of said nozzle body and supported within said combustion housing, having:

a root chamber,

~~two or more~~ at least two elongated nozzle ducts, each having an ignition end and a root end extended and opened into said root chamber, wherein said root ends of said two nozzle ducts are adjacently positioned to define a diversion joint edge therebetween while said two ignition ends of said two nozzle ducts are diverged and ~~extended within~~ communicated with said ignition chamber to define a torch gap therebetween, wherein a ~~large~~ main portion of said mixture gas at said emitting opening of said nozzle body bursts two or more ejecting beams of said mixture gas at said ignition ends of said nozzle ducts respectively, and

a torch stabilizing arrangement diverging a relatively small portion of said mixture gas at said emitting opening of said nozzle body to fill up said ignition chamber, wherein said sparks generated from said piezoelectric tip of said ignition unit first ignite said relatively small portion of said mixture gas filled in said ignition chamber to form a plurality of root flames which are united and mixed to form an environment root flame surrounding said torch head and said ignition ends of said nozzle ducts, wherein said environment root flame ignites said ejecting beams of said mixture gas burst from said ignition ends of said nozzle ducts to form two or more spaced torches while said environment root flame stabilizing and holding said spaced torches to form a strong and stable group of said torches.

Claim 2 (previously presented): The torch lighter, as recited in claim 1, wherein said root chamber forms a gas stabilizing reservoir to ensure a stable flow of said mixture gas and said root ends of said nozzle ducts are extended to a ceiling of said root chamber.

Claim 3 (original): The torch lighter, as recited in claim 2, wherein said nozzle body is a tubular throat conduit having a root end forming said root opening, an emitting end forming said emitting opening, wherein said air inlet is transversely formed on said root end and has a diameter slightly larger than said diameter of said mix chamber so as to provide a suction force to absorb said air into said mix chamber in such a manner that said mix chamber has a predetermined length and size arranged for said air and said gaseous fuel being evenly mixed to form said mixture gas at said emitting opening of said nozzle body.

Claim 4 (original): The torch lighter, as recited in claim 1, wherein said combustion housing is a ring shaped body having a surrounding wall defining said ignition chamber therein and said torch head is coaxially connected to said emitting opening of said nozzle body and supported within said combustion housing in such a manner that said ignition chamber is formed surrounding said torch head.

Claim 5 (original): The torch lighter, as recited in claim 3, wherein said combustion housing is a ring shaped body having a surrounding wall defining said ignition chamber therein and said torch head is coaxially connected to said emitting opening of said nozzle body and supported within said combustion housing in such a manner that said ignition chamber is formed surrounding said torch head.

Claim 6 (original): The torch lighter, as recited in claim 5, wherein a top end of said torch head is lower than a top end of said combustion housing and an outer diameter of said torch head is smaller than an inner diameter of said combustion housing, so that said ignition chamber is also formed above said torch head.

Claim 7 (previously presented): The torch lighter, as recited in claim 1, wherein said diversion joint edge between said roots ends of said nozzle ducts is 1.5mm or less.

Claim 8 (previously presented): The torch lighter, as recited in claim 2, wherein said diversion joint edge between said roots ends of said nozzle ducts is 1.5mm or less.

Claim 9 (previously presented): The torch lighter, as recited in claim 3, wherein said diversion joint edge between said roots ends of said nozzle ducts is 1.5mm or less.

Claim 10 (previously presented): The torch lighter, as recited in claim 6, wherein said diversion joint edge between said roots ends of said nozzle ducts is 1.5mm or less.

Claim 11 (currently amended): The torch lighter, as recited in claim 1, wherein said torch stabilizing arrangement has a plurality of diversion emitting openings formed around said torch head to communicate said root chamber with said ignition chamber,

wherein said diversion emitting openings are positioned adjacently below said roots ends of said nozzle ducts, wherein said main large portion of said mixture gas flown into said root chamber is ejected through said two nozzle ducts and said relatively small second portion of said mixture gas is diverged to emit through said diversion emitting openings and fill up said ignition chamber to be ignited to form said environment root flame surrounding said torch head and said root portions of said torches.

Claim 12 (currently amended): The torch lighter, as recited in claim 2, wherein said torch stabilizing arrangement has a plurality of diversion emitting openings formed around said torch head to communicate said root chamber with said ignition chamber, wherein diversion emitting openings are positioned adjacently below said roots ends of said nozzle ducts, wherein diversion emitting openings are positioned adjacently below said roots ends of said nozzle ducts, wherein said large main portion of said mixture gas flown into said root chamber is ejected through said two nozzle ducts and said relatively small portion of said mixture gas is diverged to emit through said diversion emitting openings and fill up said ignition chamber to be ignited to form said environment root flame surrounding said torch head and said root portions of said torches.

Claim 13 (currently amended): The torch lighter, as recited in claim 3, wherein said torch stabilizing arrangement has a plurality of diversion emitting openings formed around said torch head to communicate said root chamber with said ignition chamber, wherein diversion emitting openings are positioned adjacently below said roots ends of said nozzle ducts, wherein diversion emitting openings are positioned adjacently below said roots ends of said nozzle ducts, wherein said large main of said mixture gas flown into said root chamber is ejected through said two nozzle ducts and said relatively small portion of said mixture gas is diverged to emit through said diversion emitting openings and fill up said ignition chamber to be ignited to form said environment root flame surrounding said torch head and said root portions of said torches.

Claim 14 (currently amended): The torch lighter, as recited in claim 6, wherein said torch stabilizing arrangement has a plurality of diversion emitting openings formed around said torch head to communicate said root chamber with said ignition chamber, wherein diversion emitting openings are positioned adjacently below said roots ends of said nozzle ducts, wherein a conical ceiling surface is formed extending between said root ends of said nozzle ducts and said diversion emitting openings and said diversion emitting openings are evenly spaced apart, wherein diversion emitting openings are

positioned adjacently below said roots ends of said nozzle ducts, thereby wherein said large main of said mixture gas flown into said root chamber is ejected through said two nozzle ducts and said relatively small portion of said mixture gas is diverged to emit through said diversion emitting openings and fill up said ignition chamber to be ignited to form said environment root flame surrounding said torch head and said root portions of said torches.

Claim 15 (currently amended): The torch lighter, as recited in claim 9, wherein said torch stabilizing arrangement has a plurality of diversion emitting openings formed around said torch head to communicate said root chamber with said ignition chamber, wherein diversion emitting openings are positioned adjacently below said roots ends of said nozzle ducts, wherein said large main of said mixture gas flown into said root chamber is ejected through said two nozzle ducts and said relatively small portion of said mixture gas is diverged to emit through said diversion emitting openings and fill up said ignition chamber to be ignited to form said environment root flame surrounding said torch head and said root portions of said torches.

Claim 16 (currently amended): The torch lighter, as recited in claim 10, wherein said torch stabilizing arrangement has a plurality of diversion emitting openings formed around said torch head to communicate said root chamber with said ignition chamber, wherein diversion emitting openings are positioned adjacently below said roots ends of said nozzle ducts, wherein said large main of said mixture gas flown into said root chamber is ejected through said two nozzle ducts and said relatively small portion of said mixture gas is diverged to emit through said diversion emitting openings and fill up said ignition chamber to be ignited to form said environment root flame surrounding said torch head and said root portions of said torches.

Claim 17 (withdrawn): The torch lighter, as recited in claim 11, wherein each of said diversion emitting openings is a through hole formed on said torch head.

Claim 18 (withdrawn): The torch lighter, as recited in claim 12, wherein each of said diversion emitting openings is a through hole formed on said torch head.

Claim 19 (withdrawn): The torch lighter, as recited in claim 15, wherein each of said diversion emitting openings is a through hole formed on said torch head.

Claim 20 (withdrawn): The torch lighter, as recited in claim 16, wherein each of said diversion emitting openings is a through hole formed on said torch head.

Claim 21 (original): The torch lighter, as recited in claim 11, wherein each of said diversion emitting openings is a longitudinal slot at least evenly spacedly formed around said root chamber of said torch head.

Claim 22 (original): The torch lighter, as recited in claim 12, wherein each of said diversion emitting openings is a longitudinal slot at least evenly spacedly formed around said root chamber of said torch head.

Claim 23 (original): The torch lighter, as recited in claim 15, wherein each of said diversion emitting openings is a longitudinal slot at least evenly spacedly formed around said root chamber of said torch head.

Claim 24 (original): The torch lighter, as recited in claim 16, wherein each of said diversion emitting openings is a longitudinal slot at least evenly spacedly formed around said root chamber of said torch head.

Claim 25 (withdrawn): The torch lighter, as recited in claim 1, wherein each of said nozzle ducts is upwardly extended to have an upper portion above said torch head and said torch stabilizing arrangement has a plurality of diversion emitting openings formed at said upper portions of said nozzle ducts, wherein said emitting end of each of said nozzle ducts is narrower and a rest of said nozzle duct such that said environment root flame is formed around a root of said respective torch for stabilizing and holding firm to said torches produced at said emitting ends of said nozzle ducts.

Claim 26 (withdrawn): The torch lighter, as recited in claim 2, wherein each of said nozzle ducts is upwardly extended to have an upper portion above said torch head and said torch stabilizing arrangement has a plurality of diversion emitting openings formed at said upper portions of said nozzle ducts, wherein said emitting end of each of said nozzle ducts is narrower and a rest of said nozzle duct such that said environment root flame is formed around a root of said respective torch for stabilizing and holding firm to said torches produced at said emitting ends of said nozzle ducts.

Claim 27 (withdrawn): The torch lighter, as recited in claim 3, wherein each of said nozzle ducts is upwardly extended to have an upper portion above said torch head and said torch stabilizing arrangement has a plurality of diversion emitting openings formed at said upper portions of said nozzle ducts, wherein said emitting end of each of said nozzle ducts is narrower and a rest of said nozzle duct such that said environment root flame is formed around a root of said respective torch for stabilizing and holding firm to said torches produced at said emitting ends of said nozzle ducts.

Claim 28 (withdrawn): The torch lighter, as recited in claim 6, wherein each of said nozzle ducts is upwardly extended to have an upper portion above said torch head and said torch stabilizing arrangement has a plurality of diversion emitting openings formed at said upper portions of said nozzle ducts, wherein said emitting end of each of said nozzle ducts is narrower and a rest of said nozzle duct such that said environment root flame is formed around a root of said respective torch for stabilizing and holding firm to said torches produced at said emitting ends of said nozzle ducts.

Claim 29 (withdrawn): The torch lighter, as recited in claim 9, wherein each of said nozzle ducts is upwardly extended to have an upper portion above said torch head and said torch stabilizing arrangement has a plurality of diversion emitting openings formed at said upper portions of said nozzle ducts, wherein said emitting end of each of said nozzle ducts is narrower and a rest of said nozzle duct such that said environment root flame is formed around a root of said respective torch for stabilizing and holding firm to said torches produced at said emitting ends of said nozzle ducts.

Claim 30 (withdrawn): The torch lighter, as recited in claim 10, wherein each of said nozzle ducts is upwardly extended to have an upper portion above said torch head and said torch stabilizing arrangement has a plurality of diversion emitting openings formed at said upper portions of said nozzle ducts, wherein said emitting end of each of said nozzle ducts is narrower and a rest of said nozzle duct such that said environment root flame is formed around a root of said respective torch for stabilizing and holding firm to said torches produced at said emitting ends of said nozzle ducts.

Claim 31 (withdrawn): The torch lighter, as recited in claim 25, wherein said upper portions of said nozzle ducts are vertical extended upwardly in a parallel manner.

Claim 32 (withdrawn): The torch lighter, as recited in claim 26, wherein said upper portions of said nozzle ducts are vertical extended upwardly in a parallel manner.

Claim 33 (withdrawn): The torch lighter, as recited in claim 29, wherein said upper portions of said nozzle ducts are vertical extended upwardly in a parallel manner.

Claim 34 (withdrawn): The torch lighter, as recited in claim 30, wherein said upper portions of said nozzle ducts are vertical extended upwardly in a parallel manner.

Claim 35 (original): The torch lighter, as recited in claim 1, wherein said diameter of said nozzle pore is 0.08mm.

Claim 36 (original): The torch lighter, as recited in claim 10, wherein said diameter of said nozzle pore is 0.08mm.

Claim 37 (original): The torch lighter, as recited in claim 16, wherein said diameter of said nozzle pore is 0.08mm.

Claim 38 (withdrawn): The torch lighter, as recited in claim 30, wherein said diameter of said nozzle pore is 0.08mm.

Claim 39 (previously presented): The torch lighter, as recited in claim 11, wherein said torch head is structured as a gear, wherein said diversion emitting openings of said torch head are longitudinal slots spacedly formed around said torch head, wherein a bottom portion of said diversion emitting openings are actually a layer of space defined by a top surface of said fuel ignition assembly and a bottom surface of said torch head, whereby said layer of space functions as multiple diversion emitting openings extending from said root ends of said nozzle ducts.

Claim 40 (previously presented): The torch lighter, as recited in claim 12, wherein said torch head is structured as a gear, wherein said diversion emitting openings of said torch head are longitudinal slots spacedly formed around said torch head, wherein a bottom portion of said diversion emitting openings are actually a layer of space defined by a top surface of said fuel ignition assembly and a bottom surface of said torch head, whereby said layer of space functions as multiple diversion emitting openings extending from said root ends of said nozzle ducts.



Claim 41 (previously presented): The torch lighter, as recited in claim 13, wherein said torch head is structured as a gear, wherein said diversion emitting openings of said torch head are longitudinal slots spacedly formed around said torch head, wherein a bottom portion of said diversion emitting openings are actually a layer of space defined by a top surface of said fuel ignition assembly and a bottom surface of said torch head, whereby said layer of space functions as multiple diversion emitting openings extending from said root ends of said nozzle ducts.

Claim 42 (previously presented): The torch lighter, as recited in claim 14, wherein said torch head is structured as a gear, wherein said diversion emitting openings of said torch head are longitudinal slots spacedly formed around said torch head, wherein a bottom portion of said diversion emitting openings are actually a layer of space defined by a top surface of said fuel ignition assembly and a bottom surface of said torch head, whereby said layer of space functions as multiple diversion emitting openings extending from said root ends of said nozzle ducts.

Claim 43 (previously presented): The torch lighter, as recited in claim 15, wherein said torch head is structured as a gear, wherein said diversion emitting openings of said torch head are longitudinal slots spacedly formed around said torch head, wherein a bottom portion of said diversion emitting openings are actually a layer of space defined by a top surface of said fuel ignition assembly and a bottom surface of said torch head, whereby said layer of space functions as multiple diversion emitting openings extending from said root ends of said nozzle ducts.

Claim 44 (previously presented): The torch lighter, as recited in claim 16, wherein said torch head is structured as a gear, wherein said diversion emitting openings of said torch head are longitudinal slots spacedly formed around said torch head, wherein a bottom portion of said diversion emitting openings are actually a layer of space defined by a top surface of said fuel ignition assembly and a bottom surface of said torch head, whereby said layer of space functions as multiple diversion emitting openings extending from said root ends of said nozzle ducts.

Claim 45 (withdrawn): A torch lighter, comprising:

a casing having a liquefied fuel storage and a fuel valve which is actuated by a fuel lever pivotally mounted in said casing for releasing fuel therefrom;

an ignition unit generating sparks directed toward an ignition chamber; and

a fuel nozzle assembly provided for vaporizing said fuel released from said fuel valve to a high-pressured gaseous fuel to emit to said ignition chamber, wherein said fuel nozzle assembly comprises:

a nozzle body having a root opening, an emitting opening, and at least an air inlet provided thereon, wherein said air inlet is positioned adjacent to said root opening to define an elongated mixing chamber axially extended between said air inlet to said emitting opening, wherein said mix chamber has a diameter sized between 1mm to 2.5mm and a flow of air is capable of inletting into said mixing chamber through said air inlet;

a torch nozzle, which is coaxially connected between said root opening of said nozzle body and said fuel valve, having a micro nozzle pore having a diameter of 0.05mm to 0.12mm and comprising a mesh filter provided below said nozzle pore for preventing residual particles of said fuel from entering said nozzle body, wherein said fuel released from said fuel valve is vaporized into a strong, pressurized gaseous fuel jetting into said mix chamber, wherein said jetting gaseous fuel and said air flowing through mix chamber are mixed to form a mixture gas at said emitting opening of said nozzle body;

a combustion housing which is supported around said emitting opening of said nozzle body and defines said ignition chamber therein; and

a torch head, which is provided at said emitting opening of said nozzle body and supported within said combustion housing, having:

a root chamber,

two elongated slanted side nozzle duct and an elongated vertical central nozzle duct provided between said two side nozzle ducts to define a predetermined angle between each of said side nozzle ducts and said central nozzle, wherein each of said two side nozzle ducts and said central nozzle has an ignition end and a root end extended and opened into said root chamber, wherein said root end of said central nozzle duct is positioned adjacent to said two side nozzle ducts to define two diversion

joint edges between said central nozzle duct and said two side nozzle ducts respectively, while said ignition end of said central duct is upwardly and vertically extended inside said ignition chamber and said two ignition ends of said two side nozzle ducts are diverged and extended inside said ignition chamber, so as to define two torch gaps between said central nozzle duct and said two side nozzle ducts, and

a torch stabilizing arrangement providing a plurality of root flames which are united and mixed with root portions of said torches to form a stable environment root flame for igniting said mixture gas ejected from said ignition ends of said nozzle ducts to form two or more spaced torches and stabilizing and holding said spaced torches to form a strong and stable group of said torches.

Claim 46 (withdrawn): The torch lighter, as recited in claim 45, wherein three ignition ends of said central nozzle duct and said two side nozzle ducts are aligned in line.

Claim 47 (withdrawn): The torch lighter, as recited in claim 45, wherein two diversion joint edges each of which is made as thin as 1.5 mm or less.

Claim 48 (withdrawn): The torch lighter, as recited in claim 46, wherein two diversion joint edges each of which is made as thin as 1.5 mm or less.

Claim 49 (withdrawn): The torch lighter, as recited in claim 45, wherein said root chamber forms a gas stabilizing reservoir to ensure a stable flow of said mixture gas and said root ends of said nozzle ducts are extended to a ceiling of said root chamber.

Claim 50 (withdrawn): The torch lighter, as recited in claim 46, wherein said root chamber forms a gas stabilizing reservoir to ensure a stable flow of said mixture gas and said root ends of said nozzle ducts are extended to a ceiling of said root chamber.

Claim 51 (withdrawn): The torch lighter, as recited claim 49, wherein said nozzle body is a tubular throat conduit having a root end forming said root opening, an emitting end forming said emitting opening, wherein said air inlet is transversely formed on said root end and has a diameter slightly larger than said diameter of said mix

chamber so as to provide a suction force to absorb said air into said mix chamber in such a manner that said mix chamber has a predetermined length and size arranged for said air and said gaseous fuel being evenly mixed to form said mixture gas at said emitting opening of said nozzle body.

Claim 52 (withdrawn): The torch lighter, as recited in claim 51, wherein said combustion housing is a ring shaped body having a surrounding wall defining said ignition chamber therein and said torch head is coaxially connected to said emitting opening of said nozzle body and supported within said combustion housing in such a manner that said ignition chamber is formed surrounding said torch head.

Claim 53 (withdrawn): The torch lighter, as recited in claim 52, wherein a top end of said torch head is lower than a top end of said combustion housing and an outer diameter of said torch head is smaller than an inner diameter of said combustion housing, so that said ignition chamber is also formed above said torch head.

Claim 54 (withdrawn): The torch lighter, as recited in claim 45, wherein said torch stabilizing arrangement has a plurality of diversion emitting openings formed around said torch head to communicate said root chamber with said ignition chamber, wherein diversion emitting openings are positioned adjacently below said roots ends of said central and side nozzle ducts, thereby a main portion of said mixture gas flown into said root chamber is ejected through said two side nozzle ducts and said central nozzle duct and a relatively small portion of said mixture gas is diverged to emit through said diversion emitting openings and fill up said ignition chamber to be ignited to form said environment root flame surrounding said torch head and said root portions of said torches.

Claim 55 (withdrawn): The torch lighter, as recited in claim 53, wherein said torch stabilizing arrangement has a plurality of diversion emitting openings formed around said torch head to communicate said root chamber with said ignition chamber, wherein diversion emitting openings are positioned adjacently below said roots ends of said central and side nozzle ducts, thereby a main portion of said mixture gas flown into said root chamber is ejected through said two side nozzle ducts and said central nozzle duct and a relatively small portion of said mixture gas is diverged to emit through said diversion emitting openings and fill up said ignition chamber to be ignited to form said

environment root flame surrounding said torch head and said root portions of said torches.

Claim 56 (withdrawn): The torch lighter, as recited in claim 54, wherein each of said diversion emitting openings is a through hole formed on said torch head.

Claim 57 (withdrawn): The torch lighter, as recited in claim 55, wherein each of said diversion emitting openings is a through hole formed on said torch head.

Claim 58 (withdrawn): The torch lighter, as recited in claim 45, wherein each of said central nozzle duct and said side nozzle ducts is upwardly extended to have an upper portion above said torch head and said torch stabilizing arrangement has a plurality of diversion emitting openings formed at said upper portions of said central nozzle duct and said side nozzle ducts, wherein said emitting end of each of said central nozzle duct and said side nozzle ducts is narrower and a rest thereof such that said environment root flame is formed around a root of said respective torch for stabilizing and holding firm to said torches produced at said emitting ends of said central nozzle duct and said side nozzle ducts.

Claim 59 (withdrawn): The torch lighter, as recited in claim 49, wherein each of said central nozzle duct and said side nozzle ducts is upwardly extended to have an upper portion above said torch head and said torch stabilizing arrangement has a plurality of diversion emitting openings formed at said upper portions of said central nozzle duct and said side nozzle ducts, wherein said emitting end of each of said central nozzle duct and said side nozzle ducts is narrower and a rest thereof such that said environment root flame is formed around a root of said respective torch for stabilizing and holding firm to said torches produced at said emitting ends of said central nozzle duct and said side nozzle ducts.

Claim 60 (withdrawn): The torch lighter, as recited in claim 45, wherein said diameter of said nozzle pore is 0.08mm.

Claim 61 (withdrawn): The torch lighter, as recited in claim 49, wherein said diameter of said nozzle pore is 0.08mm.

Claim 62 (withdrawn): The torch lighter, as recited in claim 45, wherein said torch head is structured as a gear, wherein said diversion emitting openings of said torch head are longitudinal slots spacedly formed around said torch head, wherein a bottom portion of said diversion emitting openings are actually a layer of space defined by a top surface of said fuel ignition assembly and a bottom surface of said torch head, whereby said layer of space functions as multiple diversion emitting openings extending from said root ends of said central nozzle duct and said side nozzle ducts.

Claim 63 (withdrawn): The torch lighter, as recited in claim 49, wherein said torch head is structured as a gear, wherein said diversion emitting openings of said torch head are longitudinal slots spacedly formed around said torch head, wherein a bottom portion of said diversion emitting openings are actually a layer of space defined by a top surface of said fuel ignition assembly and a bottom surface of said torch head, whereby said layer of space functions as multiple diversion emitting openings extending from said root ends of said central nozzle duct and said side nozzle ducts.

**REMARKS-General**

1. The objection of listing of references in the specification is noticed. A formal Information Disclosure Statement and copies of prior arts will be submitted upon the allowance of the instant invention.
2. In responsive to the objection of the drawings, the applicant respectfully submits that the claim 1 has been amended to delete the recitation of **two or more** nozzle ducts in order to overcome the objection of the drawings.
3. In responsive to the objection of the specification, the applicant respectfully amends the claims to delete the recitation of "a large portion of said mixture gas..." in previously amended claim 1, line 31, the recitation of "diverging a small portion of said mixture gas..." in previously amended claim 1, line 35, and the recitation of "wherein said large portion of said mixture gas..." in previously amended claims 11-16 in order to overcome the objection of the specification.
4. The claims 1 and 11-16 are amended to be of sufficient clarity and detail to enable a person of average skill in the art to make and use the instant invention, so as to be pursuant to 35 USC 112.

**Response to Rejection of Claims 1-16, 21-24, 35-37 and 39-44 under 35USC112**

5. The applicant submits that the claims are amended to particularly point out and distinctly claim the subject matter of the instant invention, as pursuant to 35USC112.

**Response to Rejection of Claims 1-16, 21-24, 35-37, 39-44 under 35USC103**

6. The Examiner rejected claims 1-16, 21-24, 35-37, 39-44 over JP '434 in view of Lonergon and Anderson et al. Pursuant to 35 U.S.C. 103:

"(a) A patent may not be obtained though the invention is **not identically** disclosed or described as set forth in **section 102 of this title**, if the **differences** between the subject matter sought to be patented and the prior art are such that the **subject matter as a whole would have been obvious** at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made."

7. In view of 35 U.S.C. 103(a), it is apparent that to be qualified as a prior art under 35USC103(a), the prior art must be cited under 35USC102(a)-(g) but the disclosure of the prior art and the invention are not identical and there are one or more differences between the subject matter sought to be patented and the prior art. In addition, such differences between the subject matter sought to be patented **as a whole** and the prior art are obvious at the time the invention was made to a person having ordinary skill in the art to which the subject matter pertains.

In other words, the differences between the subject matter sought to be patent as a whole of the instant invention and JP '434 which is qualified as prior art of the instant invention under 35USC102(b) are obvious in view of Lonergan and Anderson et al at the time the invention was made to a person having ordinary skill in the art to which the subject matter pertain

8. JP '434 describes a flow speed of fuel gas injected from a fuel tank is increased by a nozzle hole, air is taken form a suction hole under its negative pressure and then the fuel gas and the air are mixed to each other at a mixing pipe, wherein the mixture is dispersed at a dispersion cylinder and its speed is decreased there and further its speed is decreased and dispersed by a distributor at the extremity end thereof, the mixture is flowed into an annular space in the combustion cylinder through the dispersion hole, flowing-out of the gas flow is made relatively large at a central part of the upper part within the combustion speed of the combustible mixture gas of proper degree and then the mixture is burned within the combustion cylinder.

9. In view of the disclosure of cited art, JP '434, with the amended claim 1 of the instant invention, the following underlined portions indicate the differences between the subject matter sought to be patent as a whole of the instant invention and JP '434 which is qualified as prior art of the instant invention under 35USC102(b).

(a) a nozzle body having a root opening, an emitting opening, and at least an air inlet provided thereon, wherein said air inlet is positioned adjacent to said rooting opening to define an elongated mixing chamber axially extended between said air inlet to said emitting opening, wherein said mix chamber has a diameter sized between 1mm to 2.5 mm and a flow of air is capable of inletting into said mixing chamber through said air inlet (as claimed in claim 1)



(b) a torch nozzle, which is coaxially connected between said root opening of said nozzle body and said fuel valve, having a micro nozzle pore having a diameter of 0.05mm to 0.12mm and comprising a mesh filter provided below said nozzle pore for preventing residual particles of said fuel from entering said nozzle body, wherein said fuel released from said fuel valve is vaporized into a strong, pressurized gaseous fuel jetting into said mix chamber, wherein said jetting gaseous fuel and said air flowing through mix chamber are mixed to form a mixture gas at said emitting opening of said nozzle body (as claimed in claim 1)

(c) a torch head having at least two elongated nozzle ducts, each having an ignition end and a root end extended and opened into said root chamber, wherein said root ends of said two nozzle ducts are adjacently positioned to define a diversion joint edge therebetween while said two ignition ends of said two nozzle ducts are diverged and communicated with said ignition chamber to define a torch gap therebetween, wherein a main portion of said mixture gas at said emitting opening of said nozzle body bursts two or more ejecting beams of said mixture gas at said ignition ends of said nozzle ducts respectively (as claimed in claim 1)

(d) a torch stabilizing arrangement diverging a relatively small portion of said mixture gas at said emitting opening of said nozzle body to fill up said ignition chamber, wherein said sparks generated from said piezoelectric tip of said ignition unit first ignite said relatively small portion of said mixture gas filled in said ignition chamber to form a plurality of root flames which are united and mixed to form an environment root flame surrounding said torch head and said ignition ends of said nozzle ducts, wherein said environment root flame ignites said ejecting beams of said mixture gas burst from said ignition ends of said nozzle ducts to form two or more spaced torches while said environment root flame stabilizing and holding said spaced torches to form a strong and stable group of said torches (as claimed in claim 1).

(e) said air inlet being transversely formed on said root end and having a diameter slightly larger than said diameter of said mix chamber so as to provide a suction force to absorb said air into said mix chamber in such a manner that said mix chamber has a predetermined length and size arranged for said air and said gaseous fuel being evenly mixed to form said mixture gas at said emitting opening of said nozzle body (as claimed in claim 3)

(f) said diversion joint edge between said roots ends of said nozzle ducts being 1.5mm or less (as claimed in claims 7-10)

(g) said torch stabilizing arrangement having a plurality of diversion emitting openings formed around said torch head to communicate said root chamber with said ignition chamber, wherein said diversion emitting openings are positioned adjacently below said roots ends of said nozzle ducts (as claimed in claims 11-16)

(h) said main portion of said mixture gas flown into said root chamber being ejected through said two nozzle ducts and said relatively small second portion of said mixture gas is diverged to emit through said diversion emitting openings and fill up said ignition chamber to be ignited to form said environment root flame surrounding said torch head and said root portions of said torches (as claimed in claims 11-16)

(i) each of said diversion emitting openings being a longitudinal slot at least evenly spacedly formed around said root chamber of said torch head (as claimed in claims 21-24)

(j) said diameter of said nozzle pore being 0.08mm (as claimed in claims 35-38)

(k) said torch head being structured as a gear (as claimed in claims 39-44)

(l) a bottom portion of said diversion emitting openings being actually a layer of space defined by a top surface of said fuel ignition assembly and a bottom surface of said torch head, whereby said layer of space functions as multiple diversion emitting openings extending from said root ends of said nozzle ducts (as claimed in claims 39-44)

10. Lonergan merely describes a burner structure which is totally irrelevant to any structure or technology with a torch lighter. The technologies involved in the design of the gas supply with respect to the torch nozzle are different between a burner and a torch lighter. Generally speaking, no torch flame like the piezoelectric torch lighter is required to produce for a burner.

11. Anderson et al, on the other hand, describes a multiple coherent jet lance which has no suggestion of any technology taught accordingly can be applied in the structure of a torch lighter. The applicant respectfully submits that the invention must be considered as a whole and there must be something in the reference that suggests the combination or the modification. See Lindemann Maschinenfabrik GMBH v. American Hoist & Derrick, 221 U.S.P.Q. 481, 488 (Fed. Cir. 1984) ("The claimed invention must be considered as a whole, and the question is whether there is something in the prior art as a whole to suggest the desirability, and thus the obviousness, of making the combination"), In re Gordon, 221 U.S.P.Q. 1125, 1127 (Fed. Cir. 1984), ("The mere fact that the prior art could be so modified would not have made the modification obvious unless the prior art suggested the desirability of the modification.") In re Laskowski, 10 U.S.P.Q.2d 1397, 1398 (Fed. Cir. 1989), ("Although the Commissioner suggests that [the structure in the primary prior art reference] could readily be modified to form the [claimed] structure, "[t]he mere fact that the prior art could be modified would not have made the modification obvious unless the prior art suggested the desirability of the modification.")

12. In the present case, there is no such suggestion. Lonergan and Anderson et al perform very different types of mechanism that never suggest any possible or desirability of applying any of their disclosed techniques into a torch lighter that can produce at least two torches as claimed in the instant invention.

13. In any case, even combining JP '434, Lonergan and Anderson et al would not provide the invention as claimed -- a clear indicia of nonobviousness. Ex parte Schwartz, slip op. p.5 (BPA&I Appeal No. 92-2629 October 28, 1992), ("Even if we were to agree with the examiner that it would have been obvious to combine the reference teachings in the manner proposed, the resulting package still would not comprise zipper closure material that terminates short of the end of the one edge of the product containing area, as now claimed."). That is, modifying JP '434 with Lonergan and Anderson, as proposed by the Examiner, would not provide a torch lighter having a preformed the above distinctive features (a) to (I) as stated above. In fact, neither JP '434 nor Lonergan nor Anderson et al, separately or in combination, suggest or make any mention whatsoever of the above distinctive features (a) to (I) of the instant invention.

14. Broad conclusory statements regarding the teaching of a reference is not evidence. There has to be actual evidence that is clear and particular. Bard v. M3, 157 F.3d 1340, 1352, 48 USPQ2d 1225, 1232 (Fed. Cir. 1998). "Mere denials and conclusory statements, however, are not sufficient to establish a genuine issue of material fact." See McElmurry v. Arkansas Power & Light Co., 995 F.2d 1476, 1578, 27 USPQ2d 1129, 1131 (Fed. Cir. 1993). "The Examiner's conclusory statement that the specification does not teach the best mode of using the invention is unaccompanied by evidence or reasoning and is entirely inadequate to support the rejection." In re Sichert, 566 F.2d 1154, 1164, 196 USPQ 209, 217 (CCPA 1977).

15. The rejections in the Office Action, regarding "the mixing chamber diameter of 1mm to 2.5mm, a micro nozzle pore diameter of 0.05mm to 0.12mm, a mesh filter, and the duct spacing as set forth in applicant's claims, being able to be viewed a nothing more than a mere matter of choice in design absent the showing of any view or unexpected results there from over the prior art of record", are broad conclusory statements: The invention is obvious because they are considered "**obvious design choices**"; "unless unobvious or unexpected results are obtained from the changes", the invention is not patentable. Such broad conclusory statements are not sufficient to support the rejection.

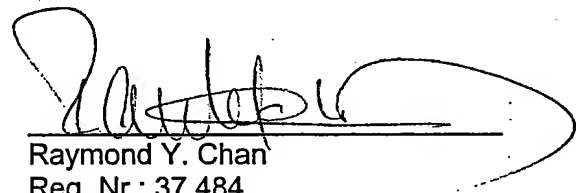
16. The applicant respectfully submits that dimension of components will become essential element of a claim when such dimension contributes necessary and required structural limitations to achieve the objectives of the invention. Without the designated dimensions of the mixing chamber diameter (i.e. 1mm to 2.5mm), the micro nozzle pore diameter (0.05mm to 0.12mm) and the participation of the a mesh filter and the duct spacing features, the invention may not perform and achieve the objectives of the invention. Accordingly, since none of the cited arts, JP '434, Lonergan and Anderson et al, suggest any of such dimension as claimed in the instant invention, each of these cited arts is unable to achieve the objective of the instant invention.

17. In other words, with the claimed dimensional limitations in the instant invention, the relative objectives of the instant invention become unexpected results of the instant invention that render the claims 1-16, 21-24, 35-37 and 39-44 of the instant invention being unobviousness.

**The Cited but Non-Applied References**

18. The cited but not relied upon references have been studied and are greatly appreciated, but are deemed to be less relevant than the relied upon references.
19. In view of the above, it is submitted that the claims are in condition for allowance. Reconsideration and withdrawal of the objection and rejection are requested. Allowance of claims 1-16, 21-24, 35-37 and 39-44 at an early date is solicited.

Respectfully submitted,

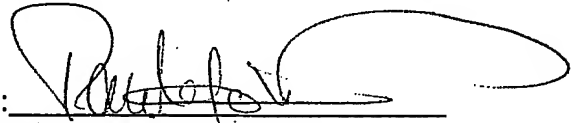


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